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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/692,865 | 10/27/2003 | Toshihito Yanashima | 020265A | 9185 |

23850 7590 03/19/2004

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

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| EXAMINER |
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NGUYEN, HANH N

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| ART UNIT | PAPER NUMBER |
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2834

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 10/692,865 | Applicant(s) YANASHIMA ET AL. | |
| | Examiner Nguyen N Hanh | Art Unit 2834 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/108,047.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Yates and by Liu et al.

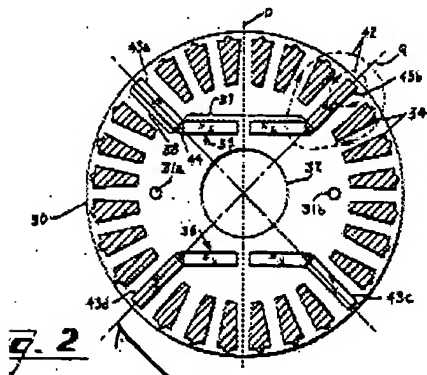
Regarding claim 1-3, Yates discloses a synchronous induction motor comprising: a stator (25 in Fig. 1) equipped with a stator winding (Col. 2, lines 63-65); a rotor (10 in Fig. 1) which is secured to a rotating shaft (11) and which rotates in the stator; a secondary conductor (21 in Fig. 1,2 and Col. 2, lines 55-60) provided around the rotor yoke constituting the rotor; and a permanent magnet (16 and 17) embedded in the rotor yoke, wherein a magnetic field (26 in Fig. 2) produced by the permanent magnet does not pass through the rotating shaft (bypass the rotating shaft as in claim 2 or passes through only the rotor yoke, excluding the rotating shaft as in claim 3).

Regarding claim 1-3, Liu et al. disclose a synchronous induction motor comprising: a stator (inherent in a synchronous motor) equipped with a stator winding; a rotor (10) which is secured to a rotating shaft (32) and which rotates in the stator; a

secondary conductor (bar in slot 34 as described in Col. 4, lines 5-15) provided around the rotor yoke constituting the rotor; and a permanent magnet (35 and 36) embedded in the rotor yoke, wherein a magnetic field (42 in Fig. 2) produced by the permanent magnet does not pass through the rotating shaft (bypass the rotating shaft as in claim 2 or passes through only the rotor yoke, excluding the rotating shaft as in claim 3).

3. Claims 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by and by Liu et al.

Regarding claim 5, Liu et al. also discloses a synchronous induction motor wherein a pair of the permanent magnets (35 and 36) is disposed, sandwiching the rotating shaft therebetween, and permanent magnets (43b and 43d) for attracting the magnetic field produced by the paired permanent magnets are further disposed at both ends of a line that passes the paired permanent magnets and the rotating shafts (please see mark-ups below).



Line that passes the paired P.M

Regarding claim 6, Liu et al. also discloses a synchronous induction motor wherein the permanent magnets (36 and 37) are provided at both ends of a line that

connects two magnetic poles, and the permanent magnets are radially disposed substantially about the rotating shaft.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yates in view of Naito et al.

Regarding claim 4, Yates show all limitations of the claimed invention except showing a void is formed in the rotor yoke between the permanent magnet and the rotating shaft.

However, Naito et al. discloses a permanent magnet rotor wherein a void (SL3) formed in the rotor yoke between the permanent magnet (L1) and the rotating shaft for the purpose of guiding magnetic flux ((Fig. 2).

Since Yates and Naito et al. are in the same field of endeavor, the purpose disclosed by Naito et al. would have been recognized in the pertinent art of Yates.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Yates by as forming a void in the rotor yoke between the permanent magnet and the rotating shaft as taught by Naito et al. for the purpose of guiding magnetic flux.

Conclusion

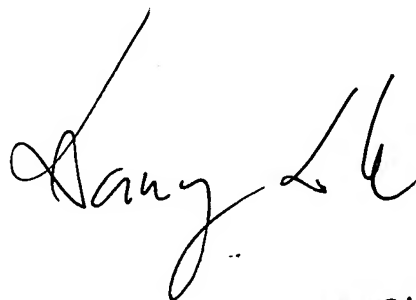
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (571) 272-2031. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberger, can be reached on (571) 272-2044. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HNN

March 11, 2004



DANGLE
PRIMARY EXAMINER